

28 March 2014

Mr. Brian Waggle
Hargis & Associates - Mesa
1640 South Stapley Drive, Suite 209
Mesa, AZ 85204



H&P Project: HA031114-15
Client Project: ECP 1132.41 F / Phoenix, AZ

Dear Mr. Brian Waggle:

Enclosed is the analytical report for the above referenced project. The data herein applies to samples as received by H&P Mobile Geochemistry, Inc. on 11-Mar-14 which were analyzed in accordance with the attached Chain of Custody record(s).

The results for all sample analyses and required QA/QC analyses are presented in the following sections and summarized in the documents:

- Sample Summary
- Case Narrative (if applicable)
- Sample Results
- Quality Control Summary
- Notes and Definitions / Appendix
- Chain of Custody

Unless otherwise noted, all analyses were performed and reviewed in compliance with our Quality Systems Manual and Standard Operating Procedures. This report shall not be reproduced, except in full, without the written approval of H&P Mobile Geochemistry, Inc.

We at H&P Mobile Geochemistry, Inc. sincerely appreciate the opportunity to provide analytical services to you on this project. If you have any questions or concerns regarding this analytical report, please contact me at your convenience at 760-804-9678.

Sincerely,



Janis Villarreal
Laboratory Director

H&P Mobile Geochemistry, Inc. operates under CA Environmental Lab Accreditation Program Numbers 2579, 2740, 2741, 2742, 2743, 2745 and 2754. National Environmental Laboratory Accreditation Conference (NELAC) Standards Lab #11845

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Reported:
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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
32-F-107	E403049-01	Vapor	28-Feb-14	11-Mar-14
32-F-162	E403049-02	Vapor	06-Mar-14	11-Mar-14
32-F-105	E403049-03	Vapor	06-Mar-14	11-Mar-14
32-F-104	E403049-04	Vapor	06-Mar-14	11-Mar-14
32-F-313	E403049-05	Vapor	06-Mar-14	11-Mar-14
32-F-313 Dup	E403049-06	Vapor	06-Mar-14	11-Mar-14

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Volatile Organic Compounds by H&P Method TO-14

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
32-F-107 (E403049-01) Vapor Sampled: 28-Feb-14 Received: 11-Mar-14										
Trichloroethene	ND		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	ND		3.4	"	"	"	"	"	"	
32-F-162 (E403049-02) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										
Trichloroethene	ND		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	ND		3.4	"	"	"	"	"	"	
32-F-105 (E403049-03) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										
Trichloroethene	ND		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	4.2		3.4	"	"	"	"	"	"	
32-F-104 (E403049-04) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										
Trichloroethene	6.1		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	ND		3.4	"	"	"	"	"	"	
32-F-313 (E403049-05) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										
Trichloroethene	6.8		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	ND		3.4	"	"	"	"	"	"	
32-F-313 Dup (E403049-06) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										
Trichloroethene	8.7		2.2	ug/m3	1	EC42801	22-Mar-14	22-Mar-14	ECD/PID	
Tetrachloroethene	ND		3.4	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
32-F-313 (E403049-05) Vapor Sampled: 06-Mar-14 Received: 11-Mar-14										J- Report
Trichloroethene	1.5	1.4	5.5	ug/m3	1	EC41309	13-Mar-14	13-Mar-14	EPA TO-15	J
Tetrachloroethene	2.4	1.4	6.9	"	"	"	"	"	"	J
<i>Surrogate: 1,2-Dichloroethane-d4</i>			<i>106 %</i>	<i>76-134</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>			<i>101 %</i>	<i>78-125</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>			<i>98.3 %</i>	<i>77-127</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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Volatile Organic Compounds by H&P Method TO-14 - Quality Control
H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EC42801 - GC

Blank (EC42801-BLK1)

Prepared & Analyzed: 22-Mar-14

Trichloroethene	ND	2.2	ug/m3							
Tetrachloroethene	ND	3.4	"							

Duplicate (EC42801-DUP1)

Source: E403049-05

Prepared & Analyzed: 22-Mar-14

Trichloroethene	7.0	2.2	ug/m3		6.8			3.95	50	
Tetrachloroethene	ND	3.4	"		0.0				50	

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Volatile Organic Compounds by EPA TO-15 - Quality Control
H&P Mobile Geochemistry, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch EC41309 - TO-15

Blank (EC41309-BLK1)

Prepared & Analyzed: 13-Mar-14

Trichloroethene	ND	5.5	ug/m3							
Tetrachloroethene	ND	6.9	"							

Surrogate: 1,2-Dichloroethane-d4	225		"	214		105	76-134			
Surrogate: Toluene-d8	210		"	207		101	78-125			
Surrogate: 4-Bromofluorobenzene	349		"	364		95.7	77-127			

LCS (EC41309-BS1)

Prepared & Analyzed: 13-Mar-14

Trichloroethene	96	5.5	ug/m3	110		87.6	70-130			
Tetrachloroethene	100	6.9	"	138		75.8	70-130			

Surrogate: 1,2-Dichloroethane-d4	233		"	214		109	76-134			
Surrogate: Toluene-d8	211		"	207		102	78-125			
Surrogate: 4-Bromofluorobenzene	396		"	364		109	77-127			

LCS Dup (EC41309-BSD1)

Prepared & Analyzed: 13-Mar-14

Trichloroethene	96	5.5	ug/m3	110		87.4	70-130	0.227	25	
Tetrachloroethene	110	6.9	"	138		78.1	70-130	3.04	25	

Surrogate: 1,2-Dichloroethane-d4	229		"	214		107	76-134			
Surrogate: Toluene-d8	212		"	207		102	78-125			
Surrogate: 4-Bromofluorobenzene	397		"	364		109	77-127			

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Notes and Definitions

J- Report	This sample is reported to standard MDL determined for this method. All confirmed hits above the reported MDL value and below the RL, will be flagged with a "J" result. If an MDL is not listed, the analyte is ND at the RL.
J	Detected but below the RL/LOQ; therefore, result is an estimated concentration.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Appendix


H&P Mobile Geochemistry, Inc. is approved as an Environmental Testing Laboratory (Certification # L11-175) in accordance with the DoD-ELAP program. H&P is approved by the State of Arizona under Certification Numbers AZM758 and AZ0779. H&P is approved as an Environmental Laboratory in conformance with the Environmental Laboratory Accreditation Program (CA) for the category of Volatile and Semi-Volatile Organic Chemistry of Hazardous Waste for the following methods:

Certificate# 2741, 2743, 2579, 2754 & 2740 approved for EPA 8260 and LUFT GC/MS
Certificate# 2742, 2745, & 2741 approved for LUFT
Certificate# 2745 & 2742 approved for EPA 418.1

H&P Mobile Geochemistry, Inc. is approved as an Environmental Laboratory in conformance with the National Environmental Accreditation Conference Standards for the category Environmental Analysis Air and Emissions for the following analytes and methods:

Hexachlorobutadiene by EPA TO-15 & TO-14A	1,3-Dichlorobenzene by EPA TO-15 & TO-14A
1,2,4-Trichlorobenzene by EPA TO-15 & TO-14A	Trichlorofluoromethane by EPA TO-14A
1,2-Dichlorobenzene by EPA TO-15 & TO-14A	Naphthalene by H&P SOP TO-15/GC-MS
Dichlorotetrafluoroethane by EPA TO-14A	1,2-Dibromoethane (EDB) by EPA TO-15 & TO-14A
1,4-Dichlorobenzene by EPA TO-15 & TO-14A	1,2-Dibromo-3-chloropropane by EPA TO-15
Benzene by EPA TO-15 & TO-14A	1,3-Butadiene by EPA TO-15
Chlorobenzene by EPA TO-15 & TO-14A	1,1,2-Trichlorotrifluoroethane by EPA TO-14A
Ethyl benzene by EPA TO-15 & TO-14A	Carbon disulfide by EPA TO-15
Styrene by EPA TO-15 & TO-14A	1,4-Dioxane by EPA TO-15
Toluene by EPA TO-15 & TO-14A	
Total Xylenes by EPA TO-15	
1,1,1-Trichloroethane by EPA TO-15 & TO-14A	
1,1,2,2-Tetrachloroethane by EPA TO-15 & TO-14A	
1,1,2-Trichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethane by EPA TO-15 & TO-14A	
1,1-Dichloroethene by EPA TO-15 & TO-14A	
1,2-Dichloroethane by EPA TO-15 & TO-14A	
1,2-Dichloropropane by EPA TO-15 & TO-14A	
Benzyl Chloride by EPA TO-15 & TO-14A	
Bromoform by EPA TO-15	
Bromomethane by EPA TO-15 & TO-14A	
Carbon tetrachloride by EPA TO-15 & TO-14A	
Chloroethane by EPA TO-15 & TO-14A	
Chloroform by EPA TO-15 & TO-14A	
Chloromethane by EPA TO-15 & TO-14A	
cis-1,2-Dichloroethene by EPA TO-15 & TO-14A	
cis-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Methylene chloride by EPA TO -15 & TO-14A	
Tetrachloroethane by EPA TO-15 & TO-14A	
trans-1,2-Dichloroethene by EPA TO-15	
trans-1,3-Dichloropropene by EPA TO-15 & TO-14A	
Trichloroethene by EPA TO-15 & TO-14A	
Vinyl chloride by EPA TO -15	
2-Butanone by EPA TO-15	
4-Methyl-2-Pentanone by EPA TO-15	
Hexane by EPA TO-15	
Methyl tert-butyl ether by EPA TO-15	
Vinyl acetate by EPA TO-15	

This certification applies to samples analyzed in summa canisters.

Lab Client and Project Information			
Lab Client/Consultant:	Hardis + Associates / Brian Waggle		
Lab Client Project Manager:	16405 Stapley Dr. Suite 209		
Lab Client Address:	Mesa AZ 85204		
Lab Client City, State, Zip:	(480) 345-0888		
Phone Number:			
Project Name / #:	ECP 1132.41 F		
Project Location:	Phoenix, AZ		
Report E-Mail(s):	bwaggle@hargis.com bhartman → brayne@hartman lmenken@hargis.com		
Reporting Requirements	Turnaround Time	Sampler Information	
<input checked="" type="checkbox"/> Standard Report <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input checked="" type="checkbox"/> Excel EDD <input type="checkbox"/> Other EDD: _____ <input type="checkbox"/> CA Geotracker Global ID: _____	<input checked="" type="checkbox"/> 5-7 day Stdnd <input type="checkbox"/> 24-Hr Rush <input type="checkbox"/> 3-day Rush <input checked="" type="checkbox"/> Mobile Lab <input type="checkbox"/> 48-Hr Rush <input type="checkbox"/> Other: _____	Samples(s): Laura Menken / Bill Me Signature:  Date: 2/28/2014 and 3/16/20	

Sample Receipt (Lab Use Only)	
Date Rec'd: 3/11/14	Control #:
H&P Project # HA031114-15	
Lab Work Order # E403049	
Sample Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Notes Below	
Receipt Gauge ID: 11167	Temp: PT
Outside Lab:	
Receipt Notes/Tracking #: WSP#129377619047849940	
Lab PM Initials: WA	

[illegible]